

REMARKS

Claims 1, 4-9, 11-20, 22-33 and 37-40 are pending in the present application. Claims 1, 4-8, 14-20 and 22-33, 38 and 39 were previously withdrawn from consideration. Claims 2, 3, 10, 21 and 34-36 were previously cancelled.

Claims 9, 11-13, 37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,665,036 to Oh et al., hereinafter "Oh", in view of U.S. Patent No. 6,111,627 to Kim et al., hereinafter "Kim", U.S. Patent No. 5,995,186 to Hiroshi, hereinafter "Hiroshi", and U.S. Patent No. 6,061,114 to Callegari et al., hereinafter "Callegari". Applicants respectfully traverse this rejection.

Independent claim 9 provides a multi-domain, wide viewing angle liquid-crystal display. The display includes, inter alia, a first dry deposited layer over a first transparent conductive layer, and a second dry deposited layer over a second transparent conductive layer. The second dry deposited layer is spaced adjacent to and facing the first dry deposited layer. Each of the first dry deposited layer and the second dry deposited layer is divided into a plurality of pixels each having a boundary and at least two domains. Each of the multi-domain, dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field methods. The dry deposited layers are exposed to at least a first particle beam and a second particle beam, and a direction of the first particle beam with respect to the dry deposited layers is different than a direction of the second particle beam with respect to the dry deposited layers. The liquid-crystal display is operable in the in-plane switching mode.

Oh discloses a unit pixel of a LCD including a substrate 110, a data electrode 108, a common electrode 109 formed on a passivation layer 120, and a first alignment layer 123a formed on passivation layer 120 and the common electrode 109 (col. 4, line

54 – col. 5, line 18). The unit pixel also includes a color filter layer 129 and a second alignment layer 123b formed on a second substrate 111 (col. 5, lines 19-23). As admitted on page 3 of the Office Action, Oh does not disclose, *inter alia*, a second transparent conductive layer disposed over the color filter, a plurality of spacers, and exposure of dry deposited layers to a first and second particle beam.

Callegari discloses an atomic beam alignment device 948 for aligning an atomic structure of an alignment film in at least one desired direction or orientation through the use of ion radiation (col. 6, lines 12-16). Atomic beam 948 can be used to radiate ions at the alignment film to disturb and align the atomic structure of the alignment film in a desired direction or orientation, such as in a horizontal, unidirectional or multidirectional manner (col. 6, lines 20-25). A mask with features etched into it can also be used to selectively align a local area, thus leading to the fabrication of domains of alignment (col. 6, lines 25-27). These can then be used to fabricate a multidomain display, which has vastly superior viewing attributes (col. 6, lines 27-29). For multidirectional alignment, it is preferred that the multidirections are selected in such a fashion that results in a multidomain device (col. 6, lines 29-31).

Callegari discloses the use of a single ion beam applied to an area of an alignment film at a selected direction to align the alignment film in a selected direction. Callegari does not disclose that the area of the alignment film is exposed first to an ion beam having a first direction, and then exposed to an ion beam having a second direction. Therefore, because **Callegari only discloses a single ion beam exposure to an alignment film to achieve a desired alignment**, Callegari does not disclose or suggest "wherein said dry deposited layers are exposed to at least a first particle beam and a second particle beam; wherein a direction of said first particle beam with respect to said dry deposited layers is different than a direction of said second particle beam with respect to said dry deposited layers," as recited in claim 9.

As discussed above, neither Oh nor Callegari disclose or suggest "wherein said dry deposited layers are exposed to at least a first particle beam and a second particle beam; wherein a direction of said first particle beam with respect to said dry deposited layers is different than a direction of said second particle beam with respect to said dry deposited layers," as recited in claim 9. Applicants do not believe that Kim or Hiroshi make up for the deficiencies of Oh and Callegari, as they apply to claim 9.

Thus, Oh, Kim, Hiroshi, and Callegari, whether considered alone or in combination, do not disclose or suggest the elements of claim 9. Therefore, claim 9 is patentable over the cited combination of Oh, Kim, Hiroshi and Callegari.

Independent claim 37 recites features similar to claim 9. For at least reasoning similar to that provided in support of the patentability of claim 9, claim 37 is patentable over the cited combination of Oh, Kim, Hiroshi and Callegari.

Claim 40 depends from claim 9, and claims 11-13 depend from claim 37. For at least reasoning similar to that provided in support of the patentability of claims 9 and 37, claims 11-13 and 40 are patentable over the cited combination of Oh, Kim, Hiroshi and Callegari.

For the reasons set forth above, it is submitted that the rejection of claims 9, 11-13, 37 and 40 under 35 U.S.C. 103(a) as being unpatentable over Oh in view of Kim, Hiroshi, and Callegari is overcome. Applicants respectfully request that the rejection of claims 9, 11-13, 37 and 40 be reconsidered and withdrawn.

Applicants respectfully request entry of the election, and a favorable allowance of the pending claims is earnestly solicited.

Respectfully submitted,

Date: 6/6/06



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